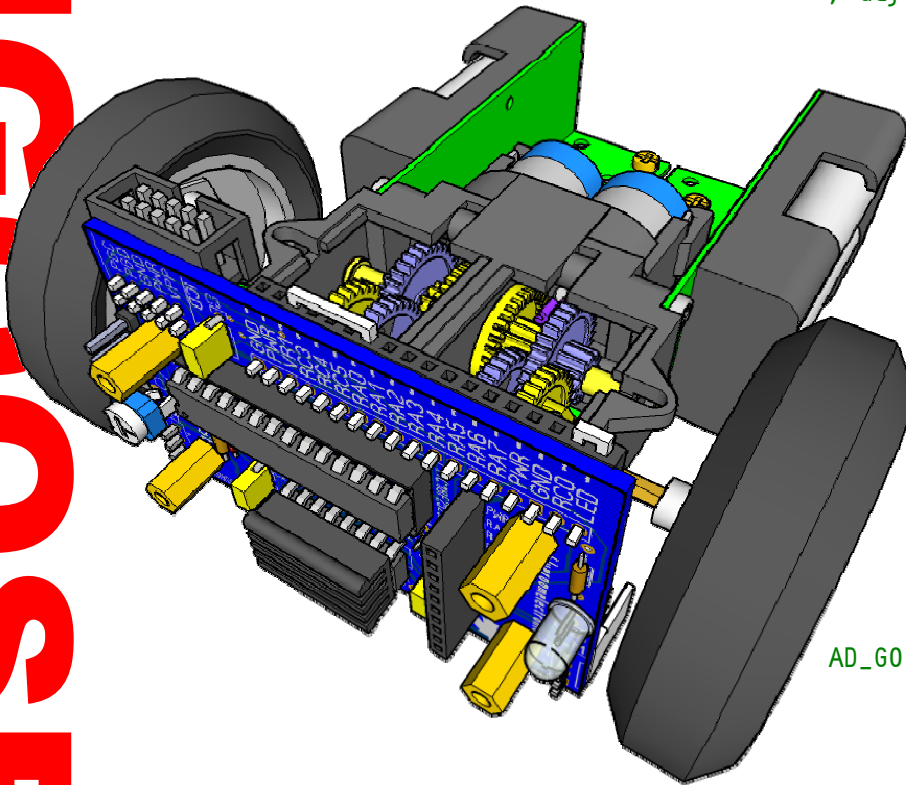


# MONGOOSE

The Mongoose Mechatronics Chassis is an Advanced Robotics Platform that Includes

- An Advanced PIC18F2525 Microcontroller programmable in C, BASIC & Assembler
- Dual Hardware PWM Speed Control, Quad Half Bridge Motor Driver
- In Circuit Programming and Hardware Debugging via Required ICD\* (not included)
- Dual Optical Rotation Sensors, Trimpot & forward facing White LED Headlight
- Expandable, lots of free I/O & A/D, Dedicated Hardware ESUART I/O Connector
- Top & Front Mounted I/O & LCD Connectors & Front Mounted User PCB Standoffs
- High Quality Aluminum Chassis, Requires 4xAA NiMH Batteries (not included)
- Only 120mm x 115mm x 57mm

[www.bluroomelectronics.com](http://www.bluroomelectronics.com)



```
; Mongoose PWM motor speed demo, right motor set with VR1
; place a small jumper wire between VR1 and RA0
; adjust VR1 so that Mongoose drives in a straight line
list      p=18F2525
include <p18F2525.inc>
CONFIG    OSC = INTIO67, PBADEN = OFF
CONFIG    WDT = OFF, LVP = OFF, DEBUG = ON
org       0
bsf       ADCON0,ADON      ; enable A/D converter
clrf      LATB
movlw     0xF0              ; RB0-3 motor direction
movwf     TRISB             ; RB4,5 opto-sensor inputs
movlw     b'11111001'      ; CCP1&2 PWM outputs
movwf     TRISC             ; direct to H-Bridge EN
movlw     0x0F
movwf     ADCON1            ; use AD RC Oscillator
movwf     CCP1CON           ; PWM mode
movwf     CCP2CON           ; frequency 976.5Hz
setf      PR2               ; PR2 = 255
movlw     0x80              ; 50% PWM
movwf     CCPR1L            ; left motor speed
movwf     CCPR2L            ; right motor speed
movlw     b'00000011'      ; set L/R motor direction
movwf     LATB              ; both forward (RB0-3)
bsf       T2CON,TMR2ON     ; enable TIMER2
AD_GO:    bsf       ADCON0,GO ; start conversion
          btfsc     ADCON0,GO ; wait for conversion
          bra       $-2       ; to complete
          movff     ADRESH, CCPR1L ; copy AD to PWM (duty)
          bra       AD_GO     ; repeat forever (loop)
END
```

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*The Mongoose requires an external PIC programmer (ICD) such as the Inchworm (RS232) or Junebug (USB)  
You can download full color manuals for Mongoose and all bluroomelectronics kits at <http://www.bluroomelectronics.com>*